

BEST AVAILABLE COPYKCC 4779 (K-C 17,026)
PATENTREMARKS

No claims have been amended herein. After entry of this Letter To The U.S. Patent and Trademark Office, claims 1-9, 12-21, and 24 will be pending in this case. Applicants respectfully request reconsideration and allowance of all pending claims.

1. Rejection of Claims 1-9, 12-21, and 24 under 35 U.S.C. §103(a)

Reconsideration is respectfully requested of the rejection of claims 1-9, 12-21 and 24 under 35 U.S.C. §103(a) as being unpatentable over WO 01/18310 (Kohler et al.).

Claim 1 is directed to a process for manufacturing a cellulosic paper product and requires forming an aqueous suspension of papermaking fibers; depositing the aqueous suspension of papermaking fibers onto a sheet-forming fabric to form a wet web; dewatering the wet web to form a partially dewatered web; topically applying a glycol compound selected from the group consisting of polyethylene glycol, triethylene glycol, glycerol and mixtures thereof to the partially dewatered web having a fiber consistency of about 80% or less; and drying the partially dewatered web by passing heated air at a temperature of at least about 175°C through the web.

Kohler et al. disclose a process for improving the surface characteristics (e.g., strength, brightness and aging resistance) of a paper or board by applying an aqueous solution (L_w) of a surface-finishing active ingredient (W) to a hydrophilic paper or board sheet. The surface-finishing active ingredient includes polyethylene glycol (W_1) having an average molecular weight greater than 1500, and desirably from 1600 to 20,000, present in the solution at a concentration of up to 50% by weight, preferably from 0.1 to 20% by weight. The aqueous solution of polyethylene glycol maybe applied by spraying the aqueous solution onto the surface of the paper or board sheet to be treated in a section of the papermaking process in which the paper or board sheet has a moisture content of 40%, corresponding to a fiber consistency of 60% (See page 13, lines 12-15). Further, the application rate of the solution is such that the concentration of the polyethylene glycol based on the dry substrate is in the range of from 0.005 g/m²

BEST AVAILABLE COPY

KCC 4779 (K-C 17,026)
PATENT

to 5 g/m². The treated paper or board can be dried using drying rolls and drying roll batteries and, if desired, calendars and calendar batteries in the dry end, using drying temperature conditions which are conventional, such as 100-250°C under pressure.

Significantly, in contrast to the Office's assertion, Kohler et al. do not disclose or suggest drying the web by passing heated air at a temperature of at least about 175°C through the treated web. As noted above, Kohler et al. simply disclose conventional drying methods that require drying rolls, drying roll batteries and, if desired, calendars and calendar batteries. The suitable temperature range is 100-250°C under smoothing and roll pressure, in particular nip pressure and line pressure. There is simply no disclosure of passing heated air at a temperature of at least about 175°C through the treated web for drying.

While the Office recognizes that Kohler et al. fail to expressly disclose drying the treated web by passing heated air at a temperature of at least about 175°C, the Office states in the Office action dated October 31, 2005 that it would have been obvious for one skilled in the art to dry the web by passing hot air through the treated web.

In order for the Office to show a *prima facie* case of obviousness, M.P.E.P. §2143 requires that the Office must meet three criteria: (1) the prior art reference must teach or suggest all of the claimed limitations; (2) there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference, and (3) there must be some reasonable expectation of success. The Office has clearly failed to meet its burden under numbers (1) and/or (2) above, as the cited reference has not taught or suggested all of the claimed limitations and there is no motivation or suggestion to modify the reference to arrive at each and every limitation of Applicants' claim 1.

As noted above, Kohler et al. fail to teach or suggest each and every limitation of claim 1. Specifically, nowhere in the Kohler et al. reference is it taught or suggested to dry the treated web by passing hot air through the web.

KCC 4779 (K-C 17,026)
PATENT

Furthermore, even if Kohler et al. did teach passing hot air through the web (which, as noted above, Applicants assert that Kohler et al. do not), there is no suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill to modify Kohler et al. As noted in M.P.E.P. §2142, in establishing obviousness, the Office must show references that teach all of the claimed limitations with some motivation or suggestion, either in the references themselves or in knowledge generally available to one skilled in the art, to modify the reference and arrive at the claimed subject matter.¹ The mere fact that a reference can be modified to arrive at the claimed subject matter does not render the resultant modification obvious unless the prior art also suggests the desirability of the modification. In re Mill, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Additionally, it is incumbent on the Office to provide a convincing line of reasoning as to why one skilled in the art would have been motivated to make the modification or combination and render it obvious. A close reading of the cited reference clearly indicates that one skilled in the art would not have been so motivated and, without Applicants' disclosure as a blueprint (which the Office has the benefit of utilizing), such a modification of the Kohler et al. reference would not have been made.² Additionally, the Office has failed to provide a convincing line of reasoning as to why one skilled in the art would have been motivated to make the change.

¹ As further set forth in M.P.E.P. §2143, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the reference itself, or in the knowledge generally available to one of ordinary skill in the art.

² M.P.E.P. §2142 further provides that in order to reach a proper determination under 35 U.S.C. §103(a), the Examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. Knowledge of Applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences." The tendency to resort to "hindsight" based upon Applicants' disclosure is often difficult to avoid due to the very nature of the examination process. However, as stated by the Federal Circuit, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art. Grain Processing Corp. v. American-Maize-Products, Co., 840 F.2d 902, 904 (Fed. Cir. 1988).

KCC 4779 (K-C 17,026)
PATENT

There is simply no reason for one skilled in the art at the time of the invention to modify the drying processes of Kohler et al. to require drying the treated web by passing hot air through the web. Kohler et al., as noted above, provide numerous means of drying their treated web, for example, using the usual drying rolls and drying roll batteries, calenders, and calender batteries. Why would one skilled in the art choose another method of drying over the methods expressly disclosed in the cited references? While Kohler et al. disclose drying with hot air, this generic statement, without anything further, is not sufficient motivation for one skilled in the art, at the time Applicants' invention was made, to modify Kohler et al. and arrive at Applicants' invention.

Additionally, Kohler et al. state that their methods of drying (drying rolls, drying roll batteries, and calenders) are advantageous as they increase the concentration of W_1 at the surface of the sheet during drying.³ No where is it taught or disclosed that drying the treated web by passing hot air through the web, as suggested by the Office and required in instant claim 1, would provide this advantageous effect.

With all due respect, it appears that the Office has used impermissible hindsight analysis and reconstruction when modifying the Kohler et al. reference. Specifically there are numerous methods of drying paper webs, many of which are disclosed in Kohler et al. As such, without using Applicants' invention as a blueprint (which the Office had the benefit of utilizing), one skilled in the art would not and could not be motivated to use the drying method of passing hot air through the treated web of Kohler et al.

There is simply no motivation to modify the Kohler et al. reference to arrive at instant claim 1, and claim 1 cannot be said to be obvious in view of the cited reference.

Claims 2-9 and 12 depend directly or indirectly from claim 1 and are patentable for the same reasons as claim 1, as well as for the additional elements they require.

³ See generally, Kohler et al. at page 12.

KCC 4779 (K-C 17,026)
PATENT

Independent claim 13 is directed to a process for manufacturing a cellulosic paper product and requires forming an aqueous suspension of papermaking fibers; depositing the aqueous suspension of papermaking fibers onto a sheet-forming fabric to form a wet web; dewatering the wet web to produce a partially dewatered web having a fiber consistency of about 80% or less; topically applying a glycol compound selected from the group consisting of polyethylene glycol, triethylene glycol, glycerol and mixtures thereof to the partially dewatered web in an add-on amount of from about 0.5% to about 20% by weight of said papermaking fibers in said web; and drying the partially dewatered web. Unlike claim 1, claim 13 does not require through-air drying by passing heated air at a temperature of at least about 175°C through the web. However, claim 13 includes the further limitation that the glycol compound be applied to the partially dewatered web in an add-on amount of from about 0.5% to about 20% by weight of papermaking fibers in the web.

On page 3 of the Office action dated October 31, 2005, the Office states that, in the Examples of Kohler et al, polyethylene glycol is added in amounts of from about 0.3 percent (referring to Example 2 at page 21 of Kohler et al.) to about 14 percent (referring to Example 1 at page 19 of Kohler et al.). As such, the Office states that it would have been obvious to one skilled in the art at the time the invention was made to modify the percentages of polyethylene glycol in the Examples of Kohler et al. to read on the claimed weight percentages based on the weight of the fibers to be from about 0.5% to about 20%. Applicants respectfully disagree.

Applicants assert that Kohler et al. fail to teach the addition of polyethylene glycol to a partially dewatered web in an add-on amount ranging from about 0.5% to about 20% by weight of papermaking fibers in the web as required in claim 13. The 0.3% polyethylene glycol added in Example 2 relied on by the Office is based on the weight of fiber material (See page 21, line 8-9), the same basis used in claim 13. However, the upper end of the range of 14% from Example 1 relied on by the Examiner is clearly described as the moistening of the paper as a result of spraying the aqueous solution (Solution I) containing

KCC 4779 (K-C 17,026)
PATENT

polyethylene glycol and water (See page 19, line 18), and not the amount of polyethylene glycol alone. At page 20, line 2, Kohler et al. teach that the moistening of 14% relied on by the Examiner corresponds to an application of polyethylene glycol of 0.2% by weight based on the fiber material. This correspondence is calculated by multiplying the application rate of Solution I (1.12 g/m^2) by the weight concentration of polyethylene glycol in Solution I (10%) and dividing by the basis weight of the paper (56 g/m^2). Similarly, none of the remaining Examples 3-8 discloses addition of polyethylene glycol in an amount greater than 0.3% by weight based on the fiber material. For example, Example 8 includes polyethylene glycol addition of 0.15% by weight of fiber material. (See page 25, lines 3-4). Example 9 does not disclose the addition of polyethylene glycol in terms of the fiber material and fails to disclose information sufficient to make such a calculation. Thus, Kohler et al. fail to teach or suggest limitations of claim 13, including topically applying a glycol compound to a partially dewatered web having a fiber consistency of about 80% or less and applying the glycol compound in an add-on amount of from about 0.5% to about 20% by weight of the papermaking fibers in the web.

Additionally, there is no motivation or suggestion to modify the Kohler et al. reference to arrive at each and every limitation of claim 13. The Kohler et al. reference is directed to producing paper and paperboard having improved surface qualities, specifically, high gloss and high smoothness. As such, why would one skilled in the art modify the levels of polyethylene glycol used in Kohler et al. to read on the amounts of claim 13 which is directed to using polyethylene glycol to reduce malodors in cellulosic paper products? No where in Kohler et al. is the problem of malodors in paper products even mentioned. As such, one skilled in the art simply would not, and could not, be motivated to modify the amounts of polyethylene glycol in Kohler et al., which is used for a completely different purpose than the polyethylene glycol of claim 13. As Kohler et al. fail to teach or suggest each and every limitation of claim 13 and further, there is no motivation to modify Kohler et al. to arrive at each and every limitation of claim 13, claim 13 cannot be said to be obvious over Kohler et al.

KCC 4779 (K-C 17,026)
PATENT

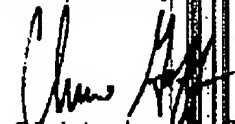
Claims 14-21 and 24 depend directly or indirectly from claim 13 and are patentable for the same reasons as claim 13 set forth above, as well as for the additional elements they require.

CONCLUSION

Favorable reconsideration and allowance of all pending claims are respectfully solicited.

The Commissioner is requested to charge any fee deficiency in connection with this Letter To The U.S. Patent And Trademark Office to Deposit Account No. 19-1345.

Respectfully Submitted,



Christopher M. Goff, Reg. No. 41,785
SENNIGER POWERS
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
(314)231-5400

CMG/JMB/dhm

Via facsimile (571) 273-8300

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.